CEDAR LAKE
WHITLEY COUNTY
FISH MANAGEMENT REPORT
2003

Introduction

Cedar Lake is a 144 acre natural lake located in northern Whitley County, Indiana. It is part of the community known as Tri-Lakes. The lake is divided into two basins by County Road 200 East (Center St.). The western basin (Big Cedar) is 98 acres; the eastern basin (Little Cedar) is 45 acres. Maximum depth of Big Cedar is 75 feet. Little Cedar has a maximum depth of 61 feet. Approximately 90% of the shoreline is developed for residential use. Access is provided by a boatable channel from Round Lake where a public access site is located on the southwest corner off Fish Hatchery Road.

Water quality of Cedar Lake is excellent and trout have been stocked annually since sometime in the 1960's. The Department of Natural Resources conducted standard fisheries surveys in 1967, 1978 and 1981. Netting for cisco was conducted in 1974 (Gulish 1975). A fall and winter angler creel survey was conducted in 1980-81. Spot check surveys were conducted in 1985 and 1988 to determine the status of cisco. Dissolved oxygen and water temperature profiles were measured in 1991, 1999, 2000, 2001 and 2002. A voluntary tag return creel survey for rainbow trout was conducted during 2002-03. A standard fisheries survey was conducted 23-25 June 2003 to determine water quality, general condition of the fishery and verify the absence of cisco. Sampling effort consisted of 1.5 hours of night dc electrofishing, six gill-net lifts and six trap-net lifts. Aquatic vegetation sampling was conducted on 31 July 2003.

Results

Water quality of Cedar Lake continues to be excellent. Secchi disc reading was 23 feet on 23 June. Dissolved oxygen was present to a depth of 46 feet. The trout layer (water temperature <=70^{o}F, dissolved oxygen >=5 ppm) extended from 12 to 24 feet. A plankton bloom was present at 22 to 24 feet as indicated by the increased turbidity at that depth.

A total of 1,195 fish representing 21 species was collected during the survey. Total weight was 338.56 pounds. The nine species commonly sought by anglers accounted for 86.8% of the sample by number and 79.5% by weight.

Bluegill was the most abundant species collected, representing 47.9% of the sample by number and 11.8% by weight. Length range was 1.3-10.8 inches. Age groups 1+ through 8+ were represented. A majority of the bluegills collected were age 2+. Fifteen percent of the bluegills collected were >=6 inches and 3.8% were >=8 inches. PSD was 24.6%. Growth was above average for age 4+ and older bluegill.

Largemouth bass accounted for 14.7% of the sample by number and 21.3% by weight. Of the 176 largemouth bass collected, only five were legal size (>=14 inches) and 15.9% were >=12 inches. PSD was 26.2%. Age groups 1+ through 8+ were represented. Growth was average at ages 1+ through 3+ but below average for older bass.

One-hundred-fifty redear sunfish were collected. Length range was 2.1-11.0 inches. Over 40% were >=8 inches. Age groups 1+ through 9+ were represented. Growth was average.

Cedar Lake was stocked with 3,000 rainbow trout averaging 9.9 inches in length on 19 March 2003. Fifty-eight of those trout were collected during this survey. Length range was 11.9-14.9 inches (average 13.7 inches). These fish grew over one inch per month in the lake.

Warmouth is a member of the sunfish family commonly found in weed beds of Indiana's natural lakes. Length range of the 45 warmouth collected was 2.2-8.6 inches. Thirty-four percent were >=6 inches.

Forty-four yellow perch were collected. Length range was 5.3-12.5 inches. Over 70% were >=8 inches and 30% were >=10 inches. Age groups 2+ through 8+ were represented. Growth was average.

The three species of bullheads commonly found in Indiana were collected from Cedar Lake. Yellow bullhead was the dominant species with 21 collected. Yellow bullhead dominate in better quality waters. Length range was 5.3-13.2 inches. Five brown bullheads and one black bullhead were also collected.

Nineteen pumpkinseed were collected. Length range was 3.4-6.9 inches. This species is often confused with redear sunfish and occasionally contributes to the angler's catch.

Seven black crappie were collected. Length range was 4.2-11.6 inches. Ages 1+, 2+ and 5+ were represented.

Common carp are present in low numbers in Cedar Lake. Two were collected during this survey. Lengths were 26.5 and 28.7 inches. These two fish accounted for over 5% of the biomass collected.

Two rock bass were collected. Lengths were 8.3 and 9.4 inches.

Thirty-one species of aquatic plants were identified during the vegetation survey; 19 species of submersed, 7 species of emergents, 3 floating species and 2 floating-leaf species. Coontail was the most common submersed species and found at 49% of the sample sites. Curly-leaf pondweed was the only invasive, exotic submersed species

observed but was not present at any of the sample sites. Purple loosestrife, a highly invasive exotic emergent was observed at several locations around the shoreline.

Discussion

Table 1. Species and relative abundance of fishes collected during standard fish population surveys at Cedar Lake.

	Date							
	7/17-21/1967		7/17-21/1978		6/24-7/2/1981		6/23-25/2003	
Species	No.	%	No.	%	No.	%	No.	%
Bluegill	323	26.7	346	45.4	62	15.3	573	47.9
Warmouth	168	13.9	92	12.1	63	15.6	45	3.8
Redear	159	13.1	71	9.3	15	3.7	150	12.6
Largemouth bass	149	12.3	60	7.9	57	14.1	176	14.7
Green sunfish	148	12.2						
Lake chubsucker	119	9.8	46	6	25	6.2	54	4.5
Pumpkinseed	55	4.5	38	5	32	7.9	19	1.6
Grass pickerel	22	1.8	3	0.4	13	3.2	9	0.8
Rock bass	18	1.5	14	1.8	11	2.7	2	0.2
Yellow perch	14	1.2	31	4.1	57	14.1	44	3.7
Spotted gar	13	1.1	15	2	5	1.2	12	1
Brown bullhead	5	0.4	8	1.1	14	3.5	5	0.4
Yellow bullhead	5	0.4	12	1.6	5	1.2	21	1.8
Black crappie	4	0.3	13	1.7	1	0.2	7	0.6
Bowfin	4	0.3	4	0.5	3	0.7	3	0.3
Golden shiner	2	0.2	1	0.1	1	0.2		
Carp	2	0.2					2	0.2
Shortnose gar	1	0.1						
Brown trout			6	0.8	21	5.2		
spotted sunfish			2	0.3	3	0.7		
Black bullhead					9	2.2	1	0.1
Tiger muskie					7	1.7		
Blackchin shiner			P		P		4	0.3
Bluntnose minnow			P					
Central mudminnow					P			
Rainbow trout							58	4.9
Hybrid sunfish							6	0.5
Brook silverside							3	0.3
Banded killifish							1	0.1
Total	1211		762		404		1195	
Sampling effort								
Electrofishing (hr.)	3.0		2.3		1.4		1.5	
Gill-net (lifts)	12		12		9		4	
Wire trap (lifts)	19							
Trap-net (lifts)			12		9		3	

Water quality in Cedar Lake continues to be one of the best in Indiana. Survival and growth of stocked trout has been good and supports a substantial fishery. The stocking of trout should be continued.

Gulish collected 23 cisco from Cedar Lake in July 1974 during an investigation of cisco populations in Indiana natural lakes. Cisco have never been collected during standard fisheries surveys. The last recorded cisco from Cedar Lake is the state record caught by an angler in 1980. Cisco can be considered extirpated from Cedar Lake.

Bluegill continues to be the dominant sport fish along with redear, largemouth bass and yellow perch. Black crappie are also present but not well represented in mid-summer surveys. Growth and recruitment of these species is adequate to support the fishery.

Rock bass continue to decline in abundance. Green sunfish, which were abundant in the 1967 survey, have not been collected since. Warmouth abundance also appears to have declined.

Recommendations

1. Cedar Lake should continue to be stocked with trout annually.

2. The Division of Fish and Wildlife should continue to work with the Tri-Lakes Property Owners Association to protect and improve water quality and habitat.

Submitted by: Edward R. Braun, Fisheries Biologist
Date: 24 June 2004

Approved by: _____
Stuart T. Shipman, Fisheries Supervisor
Date: June 28, 2004

Literature Cited:

Gulish, W.J. 1975. A Summary of Indiana Cisco Investigations, 1971-1974. Indiana Department of Natural Resources; Indianapolis, IN 46204.

LAKE SURVEY REPORT

Type of Survey: Initial Survey [ ] Re-Survey [X]

Lake Name	County	Date of survey (Month, day, year)
Cedar Lake	Whitley	06/23-25/03
Biologist's name		Date of approval (Month, day, year)
Edward R. Braun		

LOCATION

Quadrangle Name	Range	Section
Columbia City	9E	1, 2, 11, 12
Township Name	Nearest Town	
32N	Merriam	

ACCESSIBILITY

State owned public access site	Privately owned public access site	Other access site
Ramp from Round Lake		

Surface acre	Maximum de	Average dep	Acre feet	Water level	Extreme fluctuation
144	75 Feet	27 Feet	3906		

Location of benchmark

INLETS

Name	Location	Origin
Unnamed	N. side of Little Cedar	intermittent

OUTLETS

Name	Location
Unnamed channel	East end to Round Lake

Water level control

POOL	ELEVATION (Feet MSL)	ACRES
TOP OF DAM		
OF FLOOD CONTROL		
OF CONSERVATION P		
TOP OF MINIMUM POO		
STREAMBED		

Bottom type	
	Bolde
	Grave
X	Sand
X	Muck
	Clay
X	Marl

Watershed use

Residential and row crop farming

Development of shoreline

90% developed for residential use.

Previous surveys and investigations

Hydrographic mapping (U.S.G.S.) 1925. Fisheries survey (IDNR) 1667, 1972, 1978, 1981.

SAMPLING EFFORT

ELECTROFISHING	Day hours		Night hours		Total hours
			1.5		1.5
TRAP NETS	Number of traps		Number of Lifts		Total effort
	3		2		6
GILL NETS	Number of nets		Number of Lifts		Total effort
	3		2		6
ROTENONE	Gallons	ppm	Acre Feet Treated	SHORELINE SEINING	Number of 100 Foot Seine Hauls
			None		None

PHYSICAL AND CHEMICAL CHARACTERISTICS

Color: Clear-green	Turbidity: 23 Feet Inches (SECCHI DISK)	Air temperature: F
Water chemistry GPS coordinates: N W		

WATER QUALITY PARAMETERS

DEPTH (Feet)	Degrees (F)	D.O.	SpC	pH	TDS	D.O.%	Turb.	DEPTH	Degrees (F)	D.O.	SpC	pH	TDS	D.O.%	Turb.
SURFACE	75.7	6.03	0.4	8.66	0.3	74.3	0.2	52	40.4	0	0.433	7.62	0.3	0	1.3
2	75.5	5.9	0.399	8.69	0.3	72.6	0	54	40.1	0	0.434	7.61	0.3	0	1.4
4	75.2	5.59	0.399	8.7	0.3	68.6	0.2	56	39.9	0	0.436	7.58	0.3	0	1.1
6	75.1	5.56	0.399	8.71	0.3	68.1	0	58	39.8	0	0.438	7.55	0.3	0	1.1
8								60	39.8	0	0.44	7.51	0.3	0	1.5
10	73.4	6.07	0.4	8.76	0.3	73	0	62	39.7	0	0.441	7.47	0.3	0	1.7
12	68.8	6.6	0.404	8.85	0.3	75.7	0.2	64	39.7	0	0.443	7.44	0.3	0	1.7
14	66.3	6.63	0.406	8.84	0.3	73.9	0	66	39.7	0	0.444	7.41	0.3	0	2.4
16	63.5	6.18	0.407	8.73	0.3	66.8	2	68							
18	60.7	5.78	0.411	8.58	0.3	60	2.8	70							
20	57.3	5.32	0.414	8.41	0.3	53.4	3.9	72							
22	53.6	5.23	0.417	8.32	0.3	50	5.7	74							
24	50.7	4.85	0.419	8.26	0.3	44.8	8	76							
26	49	4.61	0.419	8.21	0.3	41.7	3.8	78							
28	48.1	4.37	0.42	8.17	0.3	39	0.9	80							
30	47	4.05	0.421	8.14	0.3	35.6	0.8	82							
32	46.2	4.52	0.42	8.15	0.3	39.3	1.1	84							
34	45.3	4.12	0.42	8.09	0.3	35.4	1.1	86							
36	44.6	3.55	0.419	8.01	0.3	30.2	1.5	88							
38	43.9	4.11	0.417	8.02	0.3	34.6	1.5	90							
40	43.3	3.68	0.417	7.96	0.3	30.7	1.3	92							
42	42.6	2.73	0.42	7.88	0.3	22.6	0.8	94							
44	41.9	1.68	0.424	7.78	0.3	13.8	0.2	96							
46	41.2	0.21	0.427	7.71	0.3	1.6	0.5	98							
48	40.9	0	0.43	7.68	0.3	0	0.4	100							
50	40.6	0	0.432	7.64	0.3	0	1								

SPECIES AND RELATIVE ABUNDANCE OF FISHES COLLECTED BY NUMBER AND WEIGHT					
*COMMON NAME OF FISH	NUMBER	PERCENT	LENGTH RANGE (inches)	WEIGHT (pounds)	PERCENT
Bluegill	573	47.9	1.3-10.8	39.96	11.8
Largemouth bass	176	14.7	3.7-16.7	72.17	21.3
Redear sunfish	150	12.6	2.1-11.0	49.30	14.6
Rainbow trout	58	4.9	11.9-14.9	65.77	19.4
Lake chubsucker	54	4.5	4.0-10.5	11.21	3.3
Warmouth	45	3.8	2.2-8.6	5.97	1.8
Yellow perch	44	3.7	5.3-12.5	15.79	4.7
Yellow bullhead	21	1.8	5.3-13.2	15.29	4.5
Pumpkinseed	19	1.6	3.4-6.9	3.11	0.9
Spotted gar	12	1.0	12.0-25.7	15.82	4.7
Grass pickerel	9	0.8	6.6-12.2	1.59	0.5
Black crappie	7	0.6	4.2-11.6	2.66	0.8
Hybrid sunfish	6	0.5	6.2-9.7	2.52	0.7
Brown bullhead	5	0.4	3.7-15.4	7.03	2.1
Blackchin shiner	4	0.3	1.5-2.5	0.01	0.0
Brook silverside	3	0.3	2.9-3.8	0.02	0.0
Bowfin	3	0.3	21.1-22.4	9.95	2.9
Common carp	2	0.2	26.5-28.7	18.00	5.3
Rock bass	2	0.2	8.3-9.4	0.99	0.3
Banded killifish	1	0.1	1.8	0.00	0.0
Black bullhead	1	0.1	13.5	1.40	0.4
Total (Species)	1195	100.0		338.56	100.0

*Common names of fishes recognized by the American Fisheries Society.

Occurrence and abundance of submersed aquatic plants in Cedar Lake

Date:	7/31/03	Littoral sites with plants:	47	Species diversity:	0.
Littoral depth (ft):	21.0	Number of species:	16	Native diversity:	0.
Littoral sites:	59	Maximum species/site:	7	Rake diversity:	0.
Total sites:	60	Mean number species/site:	2.66	Native rake diversity:	0.
Secchi:	13.5	Mean native species/site:	2.66	Mean rake score:	3.

Common Name	Site frequency	Relative density	Mean density	Dominan
Coontail	49.2	1.41	2.86	28
Elodea	28.8	0.56	1.94	11
Chara	23.7	0.53	2.21	10
Northern water milfoil	23.7	0.53	2.21	10
Water marigold	18.6	0.42	2.27	8
Water stargrass	16.9	0.36	2.10	7
Eel grass	23.7	0.24	1.00	4
Variable pondweed	6.8	0.20	3.00	4
Small pondweed	18.6	0.19	1.00	3
American pondweed	11.9	0.15	1.29	3
Clasping-leaf pondweed	6.8	0.15	2.25	3
Flat-stem pondweed	11.9	0.15	1.29	3
Sago pondweed	6.8	0.15	2.25	3
Common naiad	10.2	0.10	1.00	2
Large-leaf pondweed	6.8	0.10	1.50	2
Ribbon-leaf pondweed	1.7	0.02	1.00	0

Other observed plants

Curly-leaf pondweed
Ferns pondweed
Nitela
Bull rush
White water lily
Watershield
Spike rush
Purple loosestrife
Pickerel weed
Spatterdock
Arrowhead
Water willow
Common duckweed
Star duckweed
Watermeal

Body of water:	Cedar Lake		Total number:	573	Avg. Ln.:	4
Date:	6/23/2003 to	6/25/2003	Length range:	1.3	to	10
Species:	Bluegill		Total weight:	39.96	PSD:	24.6

Effort:	GN lifts:	6	EF hrs:	1.5	TN lifts:	6
CPE:	0.2		158.7		55.7	

	GN	%	EF	%	TN	%	Total	%
SS	1	100.00%	203	85.30%	193	57.80%	397	69.30%
QS	1	100.00%	50	21.00%	24	7.20%	75	13.10%
PS	0	0.00%	6	2.50%	13	3.90%	19	3.30%
MS	0	0.00%	0	0.00%	1	0.30%	1	0.20%
TS	0	0.00%	0	0.00%	0	0.00%	0	0.00%
HS	1	100.00%	60	25.20%	26	7.80%	87	15.20%
Total	1		238		334		573	

Length	GN	%	EF	%	TN	%	Total	%	Ave. Wt.	Age
1.5	0	0.00%	2	0.80%	0	0.00%	2	0.30%	0	1+
2	0	0.00%	5	2.10%	12	3.60%	17	3.00%	0	1+,2+
2.5	0	0.00%	16	6.70%	76	22.80%	92	16.10%	0.01	1+,2+
3	0	0.00%	32	13.40%	122	36.50%	154	26.90%	0.02	2+
3.5	0	0.00%	22	9.20%	49	14.70%	71	12.40%	0.02	2+
4	0	0.00%	12	5.00%	18	5.40%	30	5.20%	0.03	2+,3+
4.5	0	0.00%	29	12.20%	14	4.20%	43	7.50%	0.06	3+
5	0	0.00%	36	15.10%	8	2.40%	44	7.70%	0.08	2+,3+
5.5	0	0.00%	24	10.10%	9	2.70%	33	5.80%	0.11	3+
6	0	0.00%	24	10.10%	5	1.50%	29	5.10%	0.15	3+
6.5	1	100.00%	13	5.50%	3	0.90%	17	3.00%	0.2	3+
7	0	0.00%	8	3.40%	1	0.30%	9	1.60%	0.26	3+,4+
7.5	0	0.00%	8	3.40%	2	0.60%	10	1.70%	0.33	3+,4+,5+
8	0	0.00%	3	1.30%	2	0.60%	5	0.90%	0.37	3+,4+,5+
8.5	0	0.00%	3	1.30%	1	0.30%	4	0.70%	0.45	5+,6+,7+
9	0	0.00%	1	0.40%	8	2.40%	9	1.60%	0.53	5+,6+,7+,8+
9.5	0	0.00%	0	0.00%	3	0.90%	3	0.50%	0.56	7+,8+
10	0	0.00%	0	0.00%	1	0.30%	1	0.20%	0.75	regen.

Body of water:	Round Lake			Total number:	176	Avg. Ln.:	9.09
Date:	6/23/2003	to	06/25/03	Length range:	3.7	to	16.7
Species:	Largemouth bass			Total weight:	72.17	PSD:	26.21

Effort:	GN lifts:	6	EF hrs:	1.5	TN lifts:	6	
CPE:	0.33		114.00		0.50		

	GN	%	EF	%	TN	%	Total	%
SS	2	100.00%	103	60.23%	1	33.33%	106	60.23%
QS	1	50.00%	27	15.79%	0	0.00%	28	15.91%
PS	0	0.00%	2	1.17%	0	0.00%	2	1.14%
MS	0	0.00%	0	0.00%	0	0.00%	0	0.00%
TS	0	0.00%	0	0.00%	0	0.00%	0	0.00%
HS	0	0.00%	5	2.92%	0	0.00%	5	2.84%
Total	2		171		3		176	

Length	GN	%	EF	%	TN	%	Total	%	Ave. Wt.	Age
3.5	0	0.00	1	0.01	0	0.00	1	0.01	0.02	1+
4	0	0.00	6	0.04	2	0.67	8	0.05	0.03	1+
4.5	0	0.00	9	0.05	0	0.00	9	0.05	0.04	1+
5	0	0.00	3	0.02	0	0.00	3	0.02	0.04	1+
5.5	0	0.00	1	0.01	0	0.00	1	0.01	0.06	1+
6	0	0.00	1	0.01	0	0.00	1	0.01	0.09	2+
6.5	0	0.00	14	0.08	0	0.00	14	0.08	0.11	2+,3+
7	0	0.00	12	0.07	0	0.00	12	0.07	0.14	2+
7.5	0	0.00	15	0.09	0	0.00	15	0.09	0.17	2+,3+
8	0	0.00	9	0.05	0	0.00	9	0.05	0.21	2+,3+
8.5	0	0.00	11	0.06	0	0.00	11	0.06	0.24	2+,3+
9	0	0.00	5	0.03	0	0.00	5	0.03	0.30	2+,3+
9.5	0	0.00	6	0.04	0	0.00	6	0.03	0.34	3+
10	0	0.00	10	0.06	0	0.00	10	0.06	0.40	3+,4+
10.5	0	0.00	15	0.09	0	0.00	15	0.09	0.48	3+,4+,5+
11	0	0.00	9	0.05	0	0.00	9	0.05	0.56	3+,4+,6+
11.5	1	0.50	11	0.06	0	0.00	12	0.07	0.64	3+,4+,5+,6+
12	0	0.00	11	0.06	1	0.33	12	0.07	0.70	4+,5+,6+
12.5	0	0.00	11	0.06	0	0.00	11	0.06	0.84	5+,6+
13	1	0.50	5	0.03	0	0.00	6	0.03	0.96	4+,5+,6+
13.5	0	0.00	1	0.01	0	0.00	1	0.01	1.25	6+
14	0	0.00	1	0.01	0	0.00	1	0.01	1.36	8+
14.5	0	0.00	1	0.01	0	0.00	1	0.01	1.37	7+
15	0	0.00	1	0.01	0	0.00	1	0.01	1.50	7+
16	0	0.00	1	0.01	0	0.00	1	0.01	2.21	regen.
16.5	0	0.00	1	0.01	0	0.00	1	0.01	2.36	8+

Body of water:	Cedar Lake	Total number:	58	Avg. Ln.:	13.66
Date:	37795 to 06/25/03	Length range:	11.9	to	14.9
Species:	Rainbow trout	Total weight:	65.77	PSD:	#VALUE!

Effort:	GN lifts:	6	EF hrs:	1.5	TN lifts:	6	
CPE:	9.67		0.00		0.00		

	GN	%	EF	%	TN	%	Total	%
SS		0.00		#VALUE!		#VALUE!	0	0.00
QS		0.00		#VALUE!		#VALUE!	0	0.00
PS		0.00		#VALUE!		#VALUE!	0	0.00
MS		0.00		#VALUE!		#VALUE!	0	0.00
TS		0.00		#VALUE!		#VALUE!	0	0.00
HS		0.00		#VALUE!		#VALUE!	0	0.00
Total	58		0		0		58	

Length	GN	%	EF	%	TN	%	Total	%	Ave. Wt.	Age
12	4	0.07	0	#VALUE!	0	#VALUE!	4	0.07	0.75	
12.5	2	0.03	0	#VALUE!	0	#VALUE!	2	0.03	0.82	
13	7	0.12	0	#VALUE!	0	#VALUE!	7	0.12	0.99	
13.5	14	0.24	0	#VALUE!	0	#VALUE!	14	0.24	1.09	
14	22	0.38	0	#VALUE!	0	#VALUE!	22	0.38	1.22	
14.5	7	0.12	0	#VALUE!	0	#VALUE!	7	0.12	1.31	
15	2	0.03	0	#VALUE!	0	#VALUE!	2	0.03	1.48	
6.5	0	0.00	2	0.20	10	0.07	12	0.08	0.22	2+,3+
7	0	0.00	1	0.10	10	0.07	11	0.07	0.27	2+,3+
7.5	0	0.00	2	0.20	22	0.16	24	0.16	0.32	3+,4+,5+
8	0	0.00	0	0.00	19	0.14	19	0.13	0.37	4+,5+
8.5	0	0.00	2	0.20	19	0.14	21	0.14	0.48	4+,5+
9	0	0.00	0	0.00	7	0.05	7	0.05	0.55	4+,5+,6+
9.5	0	0.00	0	0.00	9	0.06	9	0.06	0.66	5+,6+
10	0	0.00	0	0.00	4	0.03	4	0.03	0.76	6+,7+,8+
10.5	0	0.00	0	0.00	2	0.01	2	0.01	0.85	9+
11	0	0.00	1	0.10	0	0.00	1	0.01	0.87	regen.

Body of water:	Cedar Lake			Total number:	45	Avg. Ln.:	5.11
Date:	37795 to	06/25/03		Length range:	2.2 to		8.6
Species:	Warmouth			Total weight:	5.97	PSD:	#VALUE!

Effort:	GN lifts:	6	EF hrs:	1.5	TN lifts:	6	
CPE:	2.83		4.67		3.50		

	GN	%	EF	%	TN	%	Total	%
SS		0.00		0.00		0.00	0	0.00
QS		0.00		0.00		0.00	0	0.00
PS		0.00		0.00		0.00	0	0.00
MS		0.00		0.00		0.00	0	0.00
TS		0.00		0.00		0.00	0	0.00
HS		0.00		0.00		0.00	0	0.00
Total	17		7		21		45	

Length	GN	%	EF	%	TN	%	Total	%	Ave. Wt.	Age
2	0	0.00	0	0.00	2	0.10	2	0.04	0.01	
2.5	0	0.00	0	0.00	3	0.14	3	0.07	0.01	
3	0	0.00	0	0.00	3	0.14	3	0.07	0.01	
3.5	0	0.00	0	0.00	2	0.10	2	0.04	0.04	
4	3	0.18	0	0.00	2	0.10	5	0.11	0.05	
4.5	2	0.12	0	0.00	0	0.00	2	0.04	0.08	
5	0	0.00	1	0.14	0	0.00	1	0.02	0.10	
5.5	5	0.29	4	0.57	3	0.14	12	0.27	0.12	
6	4	0.24	1	0.14	0	0.00	5	0.11	0.16	
6.5	1	0.06	0	0.00	1	0.05	2	0.04	0.19	
7	1	0.06	1	0.14	3	0.14	5	0.11	0.27	
7.5	1	0.06	0	0.00	0	0.00	1	0.02	0.30	
8	0	0.00	0	0.00	1	0.05	1	0.02	0.45	
8.5	0	0.00	0	0.00	1	0.05	1	0.02	0.55	

Body of water:	Cedar Lake			Total number:	44	Avg. Ln.:	8.65
Date:	37795 to	06/25/03		Length range:	5.3 to		12.5
Species:	Yellow perch			Total weight:	15.79	PSD:	0

Effort:	GN lifts:	6	EF hrs:	1.5	TN lifts:	6	
CPE:	6.33		4.00		0.00		

	GN	%	EF	%	TN	%	Total	%
SS	38	1.00	6	1.00	0	#VALUE!	44	1.00
QS	29	0.76	0	0.00	0	#VALUE!	29	0.66
PS	13	0.34	0	0.00	0	#VALUE!	13	0.30
MS	3	0.08	0	0.00	0	#VALUE!	3	0.07
TS	0	0.00	0	0.00	0	#VALUE!	0	0.00
HS	31	0.82	0	0.00	0	#VALUE!	31	0.70
Total	38		6		0		44	

Length	GN	%	EF	%	TN	%	Total	%	Ave. Wt.	Age
5.5	1	0.03	3	0.50	0	#VALUE!	4	0.09	0.07	2+
6	4	0.11	1	0.17	0	#VALUE!	5	0.11	0.09	2+
6.5	0	0.00	1	0.17	0	#VALUE!	1	0.02	0.13	2+
7	2	0.05	1	0.17	0	#VALUE!	3	0.07	0.15	2+,4+
8	4	0.11	0	0.00	0	#VALUE!	4	0.09	0.26	3+,4+
8.5	3	0.08	0	0.00	0	#VALUE!	3	0.07	0.29	3+,4+
9	4	0.11	0	0.00	0	#VALUE!	4	0.09	0.38	4+
9.5	6	0.16	0	0.00	0	#VALUE!	6	0.14	0.41	4+,5+,6+
10	7	0.18	0	0.00	0	#VALUE!	7	0.16	0.50	4+,5+
10.5	2	0.05	0	0.00	0	#VALUE!	2	0.05	0.59	4+,5+
11	1	0.03	0	0.00	0	#VALUE!	1	0.02	0.72	regen.
11.5	1	0.03	0	0.00	0	#VALUE!	1	0.02	0.74	7+
12	2	0.05	0	0.00	0	#VALUE!	2	0.05	0.77	8+
12.5	1	0.03	0	0.00	0	#VALUE!	1	0.02	0.98	5+

Species Bluegill	Year Class	Number Aged	Back Calculated Length(inches)at Each Age							
			I	II	III	IV	V	VI	VII	VIII
Intercept =0.8	2002	8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2001	34	1.3	2.4	0.0	0.0	0.0	0.0	0.0	0.0
	2000	50	1.3	2.4	4.5	0.0	0.0	0.0	0.0	0.0
	1999	8	1.3	2.5	4.3	6.7	0.0	0.0	0.0	0.0
	1998	6	1.4	2.7	4.7	6.4	7.9	0.0	0.0	0.0
	1997	3	1.4	3.0	5.3	7.3	8.0	8.6	0.0	0.0
	1996	3	1.5	2.9	4.6	6.0	7.7	8.5	8.7	0.0
	1995	3	1.7	3.1	5.1	7.0	7.8	8.6	8.8	9.1
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Average Length		1.4	2.7	4.7	6.7	7.9	8.6	8.8	9.1
	Standard Deviation		0.14	0.30	0.39	0.49	0.13	0.06	0.07	0.00
	Yr. Classes Averaged		8	7	6	5	4	3	2	1

NOTE: Age groups with less than three samples are not included in year class averages or standard deviation.

Species Largemouth bass	Year Class	Number Aged	Back Calculated Length(inches)at Each Age							
			I	II	III	IV	V	VI	VII	VIII
Intercept =0.8	2002	17	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2001	27	3.5	6.8	0.0	0.0	0.0	0.0	0.0	0.0
	2000	22	3.3	6.3	8.5	0.0	0.0	0.0	0.0	0.0
	1999	19	3.8	7.1	9.4	10.6	0.0	0.0	0.0	0.0
	1998	8	3.4	6.7	8.8	10.6	11.5	0.0	0.0	0.0
	1997	10	3.8	6.9	9.0	10.5	11.5	12.1	0.0	0.0
	1996	2	4.0	8.0	10.2	11.1	12.2	13.2	13.6	0.0
	1995	2	3.3	7.1	9.7	12.0	13.2	13.9	14.6	15.1
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Average Length		3.6	6.8	8.9	10.6	11.5	12.1	0.0	0.0
	Standard Deviation		0.20	0.28	0.34	0.04	0.01	0.00	0.00	0.00
	Yr. Classes Averaged		6	5	4	3	2	1	0	0

NOTE: Age groups with less than three samples are not included in year class averages or standard deviation.

Species: Redear	Year Class	Number Aged	Back Calculated Length(inches)at Each Age								
			I	II	III	IV	V	VI	VII	VIII	IX
Intercept =0.6	2002	7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2001	16	1.6	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2000	22	1.5	3.4	5.7	0.0	0.0	0.0	0.0	0.0	0.0
	1999	11	1.8	4.2	6.4	7.9	0.0	0.0	0.0	0.0	0.0
	1998	10	1.7	4.3	6.6	7.5	8.2	0.0	0.0	0.0	0.0
	1997	6	1.6	4.6	6.7	7.8	8.7	9.2	0.0	0.0	0.0
	1996	1	1.6	3.8	6.9	8.2	9.2	9.7	10.0	0.0	0.0
	1995	2	2.0	4.0	5.6	7.8	7.5	8.9	9.4	9.8	0.0
	1994	2	1.8	4.2	6.6	7.4	8.4	9.2	9.7	10.1	10.3
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Average Length		1.6	4.1	6.3	7.7	8.5	9.2	0.0	0.0	0.0
	Standard Deviation		0.10	0.46	0.47	0.18	0.33	0.00	0.00	0.00	0.00
	Yr. Classes Averaged		6	5	4	3	2	1	0	0	0

NOTE: Age groups with less than three samples are not included in year class averages or standard deviation.

Species: Yellow perch	Year Class	Number Aged	Back Calculated Length(inches)at Each Age						
			I	II	III	IV	V	VI	VII
Intercept=1.2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	2001	10	2.9	4.8	0.0	0.0	0.0	0.0	0.0
	2000	2	3.5	5.0	7.3	0.0	0.0	0.0	0.0
	1999	12	2.5	4.6	6.3	8.1	0.0	0.0	0.0
	1998	6	2.8	4.4	6.5	8.2	9.7	0.0	0.0
	1997	1	2.9	3.6	5.4	7.8	8.9	9.2	0.0
	1996	2	2.9	5.3	7.0	8.1	9.6	10.7	11.3
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Average Length		2.7	4.6	6.4	8.2	9.7	0.0	0.0
	Standard Deviation		0.21	0.22	0.17	0.03	0.00	0.00	0.00
	Yr. Classes Averaged		3	3	2	2	1	0	0

NOTE: Age groups with less than three samples are not included in year class averages or standard deviation.